

03050109-210

(*Saluda River*)

General Description

Watershed 03050109-210 is located in Lexington and Richland Counties and consists primarily of the lowest reach of the *Saluda River* and its tributaries from the Lake Murray dam to its confluence with the Broad River. The watershed occupies 65,609 acres of the Piedmont and Sandhill regions of South Carolina. The predominant soil types consist of an association of the Lakeland-Tatum-Georgeville-Applying series. The erodibility of the soil (K) averages 0.24 and the slope of the terrain averages 7%, with a range of 2-25%. Land use/land cover in the watershed includes: 48.6% forested land, 25.6% urban land, 20.2% agricultural land, 2.8% forested wetland (swamp), 1.8% water, 0.9% barren land, and 0.1% nonforested wetland (marsh).

This lower section of the Saluda River flows out of the Lake Murray dam and merges downstream with the Broad River to form the Congaree River in the City of Columbia. The lower Saluda River is protected under the S.C. Scenic Rivers Act. Rawls Creek (Yost Creek, Koon Branch), Lorick Branch, and Kinley Creek drain into the Saluda River near the City of Irmo. Juniper Creek and Long Creek (Pine Branch, Hamburg Branch) join to form Twelvemile Creek near the Town of Gilbert. Twelvemile Creek accepts drainage from Hogpen Branch, Fall Branch, and Boggy Branch before flowing through the Town of Lexington to accept the drainage of Fourteenmile Creek (Long Branch) and enter the river. Some of the ponds encountered by Twelvemile Creek include: Barr Lake, Gibsons Pond, Lexington Mill Pond, and Corley Mill Pond. Stoop Creek, Senn Branch, and Double Branch enter the Saluda River just prior to its confluence with the Broad River. There are a total of 106.7 stream miles and 509.2 acres of lake waters in this watershed. The mainstem of this section of the Saluda River is classified TGPT* (*DO not less than daily average of 5 mg/l), and all other streams are classified FW.

Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
S-152	S/W	TPGT	SALUDA RIVER JUST BELOW LAKE MURRAY DAM
RS-01012	RS01/BIO	FW	RAWLS CREEK AT S-32-175 0.25 MI W OF IRMO
S-287	S/W	FW	RAWLS CREEK AT S-32-107
S-150	S/W	FW	LORICK BRANCH AT POINT UPSTREAM OF JUNCTION WITH SALUDA RIVER
S-149	S/W	TPGT*	SALUDA RIVER AT MEPCO ELECTRIC PLANT WATER INTAKE
S-848	BIO	FW	FOURTEENMILE CREEK AT SR 28
S-294	P/W	FW	TWELVEMILE CREEK AT U.S. 378
S-260	S/W/BIO	FW	KINLEY CREEK AT S-32-36 (ST. ANDREWS ROAD) IN IRMO
S-298	P/INT	TPGT*	SALUDA RIVER AT USGS GAGING STATION, 1/2 MILE BELOW I-20

Saluda River - There are three SCDHEC monitoring sites along this section of the Saluda River. At the upstream site (*S-152*), aquatic life uses are partially supported due to dissolved oxygen and pH excursions, compounded by a significant increasing trend in total phosphorus concentration. Significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters. Prior to 2001, this was a secondary monitoring station and sampling was intentionally

biased towards periods with potentially low dissolved oxygen concentrations. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

At the midstream site (*S-149*), aquatic life uses are partially supported due to dissolved oxygen excursions. Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are partially supported due to fecal coliform bacteria excursions.

At the downstream site (*S-298*), aquatic life uses are fully supported. There is a significant increasing trend in pH. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters. Recreational uses are fully supported, and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Rawls Creek – There are two SCDHEC monitoring stations along Rawls Creek. At the upstream site (*RS-01012*), aquatic life uses are partially supported based on macroinvertebrate community data. Recreational uses are partially supported due to fecal coliform bacteria excursions. At the downstream site (*S-287*), aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen. Although some marginally low pH values were noted, they are believed to reflect natural conditions, not standards violations. Significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters. Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. Recreational uses are not supported due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentration.

Lorick Branch (S-150) - Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. Aquatic life uses are fully supported. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions.

Kinley Creek (S-260) - Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. Aquatic life uses are partially supported based on macroinvertebrate community data and dissolved oxygen excursions. In addition, there are significant decreasing trends in dissolved oxygen concentration and pH. Recreational uses are not supported due to fecal coliform bacteria excursions.

Twelvemile Creek (S-294) - Aquatic life uses are fully supported; however, there is a significant increasing trend in total nitrogen concentration. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Fourteen Mile Creek (S-848) - Aquatic life uses are partially supported based on macroinvertebrate community data.

A fish consumption advisory has been issued by the Department for mercury and includes a stream within this watershed (see advisory p.39).

Groundwater Quality

<u>Well #</u>	<u>Class</u>	<u>Aquifer</u>	<u>Location</u>
AMB-103	GB	TERTIARY SANDS	OAK GROVE ELEMENTARY SCHOOL

NPDES Program

Active NPDES Facilities

<i>RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)</i>	<i>NPDES# TYPE COMMENT</i>
SALUDA RIVER SCE&G/MCMEEKIN STEAM STATION PIPE #: 001-005, 02A FLOW: M/R	SC0002046 MAJOR INDUSTRIAL
SALUDA RIVER SCE&G/SALUDA HYDRO STATION PIPE #: 001-009 FLOW: M/R	SC0002071 MINOR INDUSTRIAL
SALUDA RIVER HONEYWELL NYLON/COLUMBIA SITE PIPE #: 001 FLOW: M/R	SC0003557 MAJOR INDUSTRIAL
SALUDA RIVER BC COMPONENTS, INC. PIPE #: 001 FLOW: M/R	SC0003425 MAJOR INDUSTRIAL PERMIT INACTIVATED 6/16/04
SALUDA RIVER WOODLAND UTILITIES PIPE #: 001 FLOW: 0.29	SC0029475 MINOR DOMESTIC TO BE ELIMINATED
SALUDA RIVER BUSH RIVER UTILITIES WWTP PIPE #: 001 FLOW: 0.4	SC0032743 MINOR DOMESTIC TO BE ELIMINATED
SALUDA RIVER CWS/I-20 REGIONAL SEWER SYSTEM PIPE #: 001 FLOW: 0.80	SC0035564 MINOR DOMESTIC
SALUDA RIVER CWS/FRIARSGATE SD PIPE #: 001 FLOW: 1.2	SC0036137 MINOR DOMESTIC
SALUDA RIVER RIVERBANKS ZOOLOGICAL PARK PIPE #: 001-005 FLOW: M/R	SC0037613 MINOR INDUSTRIAL

LORICK BRANCH
BC COMPONENTS, INC.
PIPE #: 002 FLOW: M/R

SC0003425
MAJOR INDUSTRIAL
PERMIT INACTIVATED 6/16/04

KINLEY CREEK
HONEYWELL NYLON/COLUMBIA SITE
PIPE #: 002 FLOW: M/R

SC0003557
MAJOR INDUSTRIAL
STORMWATER

TWELVEMILE CREEK
TOWN OF LEXINGTON/COVENTRY WOODS SD
PIPE #: 001 FLOW: 1.95

SC0026735
MAJOR DOMESTIC

FOURTEENMILE CREEK
CWS/WATERGATE DEVELOPMENT
PIPE #: 001 FLOW: 0.294

SC0027162
MINOR DOMESTIC

STOOP CREEK
ALPINE UTILITIES, INC.
PIPE #: 001 FLOW: 2.0

SC0029483
MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME
FACILITY TYPE

PERMIT #
STATUS

SCE&G McMEEKIN STATION
INDUSTRIAL

IWP-220
ACTIVE

ALLIED FIBERS CORP.
INDUSTRIAL

IWP-143
ACTIVE

MUSTARD COLEMAN CONSTRUCTION
INDUSTRIAL

IWP-001
ACTIVE

Land Applications

LAND APPLICATION
FACILITY NAME

PERMIT #
TYPE

SPRAY IRRIGATION
GILBERT ELEMENTARY SCHOOL

ND0013587
DOMESTIC

SPRAY IRRIGATION
LEXINGTON HIGH SCH./VOC.ED.CTR.

ND0067016
DOMESTIC

SPRAY IRRIGATION/TILEFIELD
WINDY HILL SD

ND0067075
DOMESTIC

Mining Activities

MINING COMPANY
MINE NAME

PERMIT #
MINERAL

SOUTHEASTERN ASSOC. INC.
LEXINGTON COUNTY #1 MINE

1097-63
SAND

BORAL BRICK, INC.
CORLEY MILL ROAD

0028-63
SHALE

Water Quantity

***WATER USER
STREAM***

***REGULATED CAPACITY (MGD)
PUMPING CAPACITY (MGD)***

CITY OF WEST COLUMBIA
SALUDA RIVER

6.0
13.0

Growth Potential

There is a high potential for future residential and industrial development in this watershed, which contains the Town of Lexington and portions of the Cities of Columbia and West Columbia, and the Towns of Gilbert, Summit, and Irmo. The area surrounding the Town of Lexington has grown rapidly during the past several years and the trend should continue. Several important highways run through the area including: S.C. 6, which runs from the Lake Murray dam south through the Town of Lexington, and U.S. 1 and U.S. 378, which run west from the City of West Columbia and intersects with Highway 6 in Lexington; I-20 also serves the area. The watershed's industrial corridor is one of the most economically attractive in the Midlands Area for future development. Once sewer is readily available, residential development is expected to increase. The regional sewer line along Fourteenmile Creek is now in operation.

The construction of a water plant on the shore of Lake Murray north of the Town of Lexington, has made available a water supply sufficient to support development. The City of West Columbia and Lexington County have extended major water mains in the area. Non-industrial dischargers in this basin are targeted for elimination with effluent transported to the City of Cayce's WWTP through a regional system. Components of the regional system have either been constructed, are presently being constructed, or are presently being designed. This will decrease discharge levels into the lower portion of the Saluda River.

Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

Levels of fecal coliform bacteria can be elevated in water bodies as the result of both point and nonpoint sources of pollution. Rawls Creek is currently in violation of the fecal coliform bacteria water quality standard, as more than 10% of the samples collected at station S-287 during 1994-1998 exceed the 400 colonies/100ml standard. Urban and forest are the two major land uses in the Rawls Creek watershed. Both can be sources of fecal coliform bacteria. Targeting urban land for reduction of bacteria is the most effective strategy for this watershed. The geometric mean for this site is 543 colonies/100ml. The target level of bacteria is 175 colonies/100ml, an urban reduction of 69%. Forested lands are not targeted for reduction, as there are currently no acceptable means of reducing fecal coliform sources within that land use. There are several tools available for implementing this TMDL, including an ongoing \$319 funded project, as well as NPS pollution outreach activities and materials. SCDHEC will continue to monitor water quality in Rawls Creek to evaluate the effectiveness of these measures.